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EXAMINER

HUG, ERIC J

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 09/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/965,435

Applicant(s)

BECK, DAVID A.

Examiner

Eric Hug

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1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 17-19, 21, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 7, 13-16, 20 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

1. Claims 1-5, 9-12, 17-19, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Lindsay (US 6,280,573). Lindsay discloses a sealed air press for treatment of a moving web. The device can be used for treatment of a porous fabric of a papermaking machine. Such fabrics are typically semi-permeable. The air press comprises a pressurized chamber wherein a moving web is carried through and wherein a pressurized gas such as air is forced into the moving web, displacing any fluid contained in the web. Chemical treatment with pressurized fluids can additionally be carried out within the chamber. Thus, Lindsay teaches the method steps of providing a cleaning fluid, applying it to a semi-permeable membrane, carrying and conveying the membrane through the air press, and subjecting the membrane to pressurized fluid to flush any cleaning fluid through the web. This reads on claims 1 and 12. With respect to the other claims:

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Claims 2, 3: The cleaning fluid can be a surfactant based liquid (containing water) or a solvent.

Claims 4, 5: The fluid is applied within the chamber by spraying.

Claims 9-11: The air pressure differential is 25-220 inches of mercury (0.84 to 7.4 bar) delivering an air flow of between 5-500 SCFM per square inch of web area.

Claims 17 and 23: The apparatus comprises a source of cleaning fluid, a spray applicator for applying the fluid to a web, and air press chamber having pressurized air within for flushing fluid through the web.

Claim 18: The cleaning fluid can be a surfactant based liquid (containing water) or a solvent.

Claim 19: The fluid is applied within the chamber by spraying.

2. Claims 1-6, 9, 12, 17-19, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Koskinen et al (US 6,136,148). Koskinen discloses a method for cleaning a drying wire of a paper machine (which is considered as a semi-permeable membrane). A cleaning fluid is applied to the drying wire by introducing it into gap formed between the wire and a press roll. The cleaning fluid is pressed and spread along the surface of the drying wire as it travels around the roll. At least one air pressure box is positioned adjacent the drying wire, forming an overpressure to blow air through the wire and remove any cleaning fluid therein. Thus, Koskinen teaches the method steps of applying cleaning fluid to a membrane and carrying and conveying the membrane through an air press while subjecting the membrane to pressurized air to flush cleaning fluid through the membrane. This reads on claims 1 and 12. With respect to the other claims:

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Claims 2, 3 : The cleaning fluid can be a detergent or solvent used with hot water.

Claim 4: The cleaning fluid is applied to the membrane outside of the air press.

Claims 5 and 6: The cleaning fluid is applied over the entire width of the membrane by a wide-angle (divergent) spray.

Claim 9: An over pressure of air (greater than atmospheric pressure) is applied.

Claims 17, 18, 19, 23: The apparatus comprises a source of cleaning fluid such as detergent in hot water, a spray applicator for applying the fluid to a fabric, and an air press having pressurized air within for flushing cleaning fluid through the fabric.

3. Claims 1, 4, 8, 9, 12, 17, 21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sando et al (US 4,437,200). Sando discloses an apparatus for dehydration of a cloth comprising pairs of rolls in mutual contact and a pressurized air chamber defined by the space between the rolls. A cloth which has been initially treated with a cleaning solution is run between pairs of pressure rolls to expel the fluid. To improve the dehydration, a closed pressurized air chamber is formed between the rolls and seal plates attached to the ends of the rolls. As the cloth travels through the press roll arrangement, pressurized air is applying to the cloth, forcing cleaning fluid through the cloth. Considering the cloth as a semi-permeable membrane, the apparatus of Sando accomplishes the method of claims 1 and 12 by providing a cleaning fluid, applying it to a semi-permeable membrane, carrying and conveying the membrane through the air press, and subjecting the membrane to pressurized fluid to flush cleaning fluid through the membrane. With respect to the other claims:

Claim 4: The cleaning fluid has been applied outside of the press.

Claim 8: The air press is a multiple-roll cluster and box arrangement defining a pressurized air chamber in between the roll cluster.

Claim 9: Pressurized air is delivered within the chamber and through the cloth, therefore it must be greater than atmospheric pressure.

Claims 17, 21, and 23: The apparatus comprises a roll cluster in a box arrangement for conveying the treated cloth, an air press chamber defined by the roll cluster, a source of air for flushing cleaning fluid through the cloth, and since cleaning fluid has been applied to the cloth, it also must have a source of cleaning fluid and a means for applying it.

4. Claims 1, 4-6, 9, 12, 17, 19, 23, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardiner (US 4,116,762). Gardiner discloses a porous felt conditioning system comprising a source of water as cleaning fluid (42) and a pressurized air space along the circumference of a conditioning roll (24) for purging the cleaning fluid from the felt as it travels along. The system accomplishes the method of applying cleaning fluid to a semi-permeable membrane (the felt), carrying and conveying the felt through an air press (the pressurized air space about the conditioning roll), and subjecting the felt with pressurized air to flush the cleaning fluid through the felt. This reads on claims 1 and 12. With respect to the other claims:

Claims 4-6: The cleaning fluid is applied outside the press using a spray boom with wide-angle spray nozzles.

Claim 9: Pressurized air (greater than atmospheric pressure) is forced through the felt.

Claims 17, 19, 23, and 24: The apparatus is part of a paper machine, and comprises a felt arranged to carry a fiber web, a plurality of rolls for conveying the felt, a spray device for applying cleaning fluid to the felt, and an air press for delivering pressurized air to the felt and purging cleaning fluid therefrom.

5. Claims 17, 18, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishiwata et al (US 3,956,790). Ishiwata discloses an apparatus for cleaning a surface of a moving web comprising an applicator for washing fluid (2), an air press defined by an enclosed chamber (10) for delivering pressurized air to the web (10), and a supporting press roller (3). The cleaning fluid can comprise water and soapsuds (detergent).

***Allowable Subject Matter***

Claims 7, 13-16, 20, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose or suggest a method or apparatus for cleaning a semi-permeable membrane configured for carrying a fiber web comprising a cleaning fluid and an air press, whereby the air press includes a cap roll upon which the cleaning fluid is applied and transferred to the membrane (claims 7, 20), whereby the press is configured for impregnating or coating the fiber web carried by the membrane (claim 13), or whereby a second air press is provided (claims 14-16, 22).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ilomaki et al (US 6,345,453) discloses a cleaning device for cleaning a porous web-supporting band and pressurized chamber for drying the band together with a fiber web as they are conveyed through the chamber.

Clarke et al (US 6,099,691) discloses a method for cleaning a papermaking forming fabric by applying pressurized fluid to the fabric within a sealed vacuum chamber.

Lidar (US 5,900,117) discloses a press for cleaning papermaking clothing comprising a fluid injection nozzle and a supporting body.

Sinnett et al (US 5,836,044) discloses a sealed pressurized air chamber for removing contaminants from the surface of a moving web.

Sjoberg (US 5,603,775) discloses an apparatus for cleaning impurities from a roll or fabric surface comprising a source of pressurized cleaning fluid, a source of compressed air, and an integral vacuum chamber for removing the fluid and impurities.

Frezzotti (US 4,162,936) discloses a method of using pressurized fluid for cleaning a semi-permeable surface of a paper machine roll.

Shippey et al (US 3,992,301) discloses a method of cleaning a semi-permeable membrane with pressurized fluid or air.

Huyck Corporation (GB 1,008,668) discloses a pressurized air chamber comprising a plurality of squeezing rolls for removing fluid from papermaking press felts.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 703 308-1980. The examiner can normally be reached on Monday through Friday, 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 703 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-7718 for regular communications and 703 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0651.



jeh  
September 3, 2002

  
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